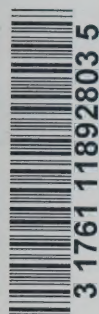


CA2φN
DT 79
- φ 57



**Corporate Report
1973**



**The Ontario
Transportation
Development
Corporation**

*Ontario Transportation Development
Corporation, Corporate Report.*

@ A20N
DT 79
Ø57

Foreword
The Report of the Chairman and President

Board of Directors

Technical Advisory Board

Financial Statements

Senior Executives of OTDC

Senior Managers in Profile

Small Bus, Big Success

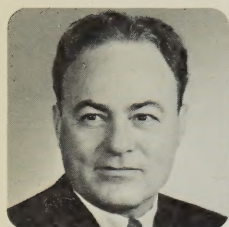
Light Rail Vehicles

GO-Urban

Summary

Foreword

The Report of the Chairman and President



E.R. Rowzee

With the appointment of a Board of Directors and key corporate executives, The Ontario Transportation Development Corporation (OTDC) has, in its first half year, established a sound organizational, financial and operational framework to meet its objective of developing improved urban transportation systems for markets in Canada and abroad.

The corporation, now operating from the Canada Permanent Tower at the Yonge-Eglinton Centre in Toronto, is recruiting permanent staff to replace interim personnel provided by the Ontario Ministry of Transportation and Communications.

OTDC's organization is structured so that each product is processed through the development, management, marketing and financial stages on a line basis. Product development activities are supported by line divisions including research and development, marketing and sales, and planning. Vice-presidents have been recruited for each of these line divisions.

In addition to its GO-Urban and small bus programs, the corporation has initiated a light rail vehicle (LRV) program in response to recently identified needs of Canadian cities for new light rail rapid transit systems. Working directly with transit operators in Toronto and Edmonton, OTDC will complete design, development and vehicle procurement specifications in 1975 for a new vehicle.

One of the most exciting transit developments with which the corporation is involved is GO-Urban, a transit system using magnetically levitated vehicles. Under a prototype development contract, the West German firm, Kräuss-Maffei AG will construct a development and demonstration system around the perimeter of the Canadian National Exhibition grounds in Toronto.

In addition to having rights to GO-Urban technology in South, North and Central America, OTDC holds exclusive rights in Canada. The corporation will also receive ten percent of royalty income from systems sold in the United States. One of the earlier development programs for this system in 1974 will be that of an alternating current propulsion system. This will begin a program of sub-system development and expansion of Canadian industrial participation in the GO-Urban transit program.



K.W. Foley

The OTDC-developed small bus is manufactured under licence by two Ontario companies. Additional manufacturing licence rights will be granted outside Ontario next year. The corporation will also begin development of a second generation bus. In addition to providing a variety of seating configurations, a heavy-duty chassis will be produced while body and components undergo an extensive development program. Studies have begun on prototype development of a wheelchair-lift-equipped bus.

Virtually all 1973 staff expenses were incurred under a service agreement with the Ontario Ministry of Transportation and Communications. Capital expenditures consisted of the cost of the GO-Urban licence rights, bus moulds and the purchase of a prototype bus for demonstration purposes. Expenses of \$3,666 were incurred in establishing the corporation. All 1973 revenue resulted from interest upon equity funds.

The \$98,606 excess income over expenditures for 1973 will be expended in 1974 when normal operating expenses are incurred. Deficits are forecast for each year until 1978 when royalties on the GO-Urban system, small bus and light rail vehicles are expected to produce a surplus.

The corporation's four major objectives for the year 1974 are:

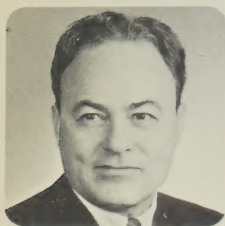
1. Product line expansion and diversification;
2. Expansion of activities and financial base with other governments in Canada;
3. Implementation of the testing and development program for GO-Urban technology;
4. Development and creation of a high-grade transit research and development capabilities resident in Canada.

The directors and executives are encouraged by the progress of the corporation. They wish to extend their appreciation to all OTDC employees for their dedication and hard work.

Edwin Ralph Rowzee, Chairman

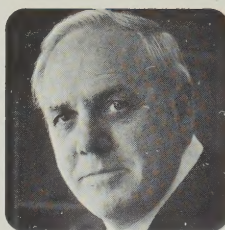
Kirk W. Foley, President

Board of Directors



Edwin Ralph Rowzee, Chairman

Mr. Rowzee holds a Master's Degree in Chemical Engineering from the Massachusetts Institute of Technology and an honorary degree of Doctor of Science from Laval University. He is Chairman of the Board of Directors for Polysar Limited, and was the former Chairman of the Board and Chief Executive Officer of Polymer Corporation Limited. He is a member of the Board of Governors of the University of Windsor. Mr. Rowzee is a Past President of the Chemical Institute of Canada and has served as a Director of the Canadian Chamber of Commerce.



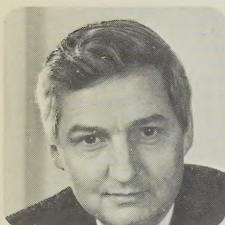
Basil H. Hall, Director

Mr. Hall is the former mayor of North York, one of the boroughs which make up Metropolitan Toronto. He has served on the Council of North York from 1957 to 1972. Mr. Hall has also been associated as a member of the Board of Directors of North York General Hospital and the Board of Governors of Seneca College. Mr. Hall holds a Bachelor of Science degree. His other interests include Hall Construction Company, Microfilm Recording Company, Hall Photographic Supply Limited, and Methale Investments Limited.



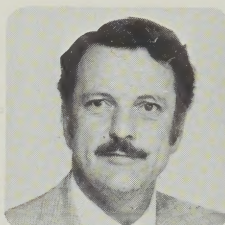
Mrs. Sonja I. Bata, Director

A member of the Board of Bata Limited, Mrs. Bata is also Chairman of the Central Design Panel of Bata Shoe Organization. She is Chairman of the National Design Council of Canada, a member of the Executive Council and Trustee of the World Wildlife Fund and is a member of the Board of Trustees of the Art Gallery of Ontario.



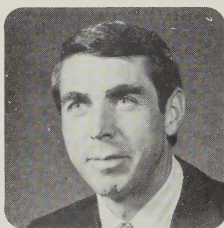
Paul Desmarais, Director

Mr. Desmarais is Chairman of the Board and Chief Executive Officer of the Power Corporation of Canada Limited, Montreal, the Trans-Canada Corporation Fund and of Shawinigan Industries Limited. He is President of Gelco Enterprises Limited and is Vice President and Chairman of the Executive Committee, The Imperial Life Assurance Company of Canada. Mr. Desmarais holds a Bachelor of Commerce degree from the University of Ottawa and an honorary LL.D. from the University of Moncton.



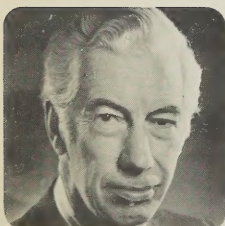
Donald C. Gibson, Director

He is President of The Linden Valley Company in Lindsay. Formerly a Director and Vice President of General Foods Limited, Mr. Gibson has also been associated with McKim Advertising Limited, Salada Shirriff-Horsey Limited and Colgate Palmolive Limited. Mr. Gibson attended the University of Western Ontario, where he received an Honors B.A. Business Administration.



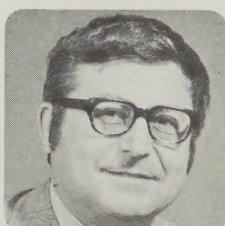
John R. McCaig, Director

Mr. McCaig is President and Chief Executive Officer of Trimac Limited, Calgary, and is a director of twenty-eight affiliate companies. He is a director of National Tank Truck Carriers Inc., Alberta Gas Trunkline Co. Limited, Pan Alberta Gas Limited, and Junior Achievement of Southern Alberta. Mr. McCaig is Canadian Vice President of the Western Highway Institute.



Walter H. Paterson, Director

Formerly General Manager of Subway Construction for the Toronto Transit Commission, Mr. Paterson has also served as Chief Engineer of the TTC, and initiated the planning for the Yonge Street subway. He holds a Bachelor of Science degree in Civil Engineering from Queen's University and is a member of the Association of Professional Engineers of Ontario. He is a fellow and past Chairman of the Toronto Branch of the Engineering Institute of Canada and an associate member of the Town Planning Institute of Canada.

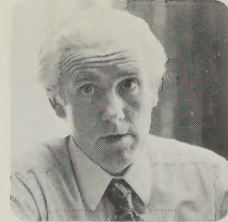


B. Julian Sibold, Director

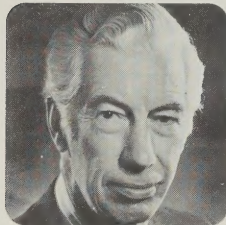
Mr. Sibold is a Master of Business Administration from Harvard Graduate School of Business Administration and holds an Honors Bachelor of Science degree from McMaster University. He is a Director of the Victoria and Grey Trust Company and is owner and General Manager of Perth Motors (1955) Limited, Stratford, Ontario. He is President of the Stratford General Hospital, and is Adjunct Professor of Marketing at Waterloo Lutheran University.

Technical Advisory Board

The function of the Technical Advisory Board is to provide expert advice and guidance to the Research & Development division of the corporation. Meeting regularly, the Board reviews project progress and discusses new projects prior to development. The Technical Advisory Board consists of Mr. John Hodge, Vice-President, Research and Development plus three other members. The three members are:

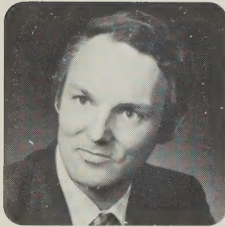


John D. Hodge



Walter H. Paterson

Mr. Paterson is a Director of The Ontario Transportation Development Corporation. He was closely involved in the planning and development of both the Yonge and Bloor subway systems in Toronto. He is a transit consultant to many cities throughout the world.



Dr. David L. Atherton

Dr. Atherton is Associate Professor of Physics at Queen's University. In addition, he leads a multi-university research team investigating superconducting magnetic levitation and linear synchronous motor propulsion for high-speed guided ground transport.



Dr. Omond M. Solandt

Dr. Solandt served as the first Chairman of the Canadian Defence Research Board and later joined Canadian National Railways as Vice President, Research and Development. He has been Vice President, Research and Development of de Havilland Aircraft of Canada Ltd., and Hawker Siddeley Canada Ltd., as well as Chairman of the Board of DCF Systems Limited. In 1966 he became Chairman of the Science Council of Canada. He was also Vice-Chairman of the Board of the Electric Reduction Company.

Senior Executives of OTDC



Kirk W. Foley, President

Mr. Foley was appointed President and Chief Executive Officer of the corporation in 1973. He is a graduate of the University of British Columbia and obtained his Master of Business Administration degree from McMaster University in Hamilton in 1968.

He joined the Ontario Ministry of Transportation and Communications in 1971 as Director of Economic Planning and was instrumental in the formation of the corporation as a major component of a new urban policy for Ontario.

In an address before the Metropolitan Toronto Transportation Committee and the Toronto Transit Commission he summarized the philosophy and operative function of the newly-formed corporation. He said, "Conventional transit technology is simply unable to effectively satisfy all the needs of growing populations. More people must be moved more quickly and more comfortably than ever before. And neighbourhoods must not be destroyed in the process."

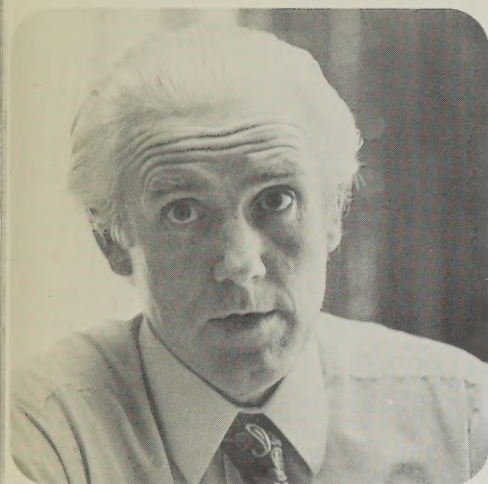
Since his appointment, Mr. Foley has played an active role in the formation of the corporation's management and marketing teams. He has travelled extensively throughout North America to establish and promote the corporation's identity and has taken a personal hand in marketing the products and systems which the organization offers.



**Lorne G. Main, Vice-President
Marketing and Sales**

After graduating from the University of Manitoba Mr. Main joined the Royal Canadian Navy in 1941 and served until 1952. He then joined the Canadian Car Company and later transferred to A.V. Roe (Canada) Ltd., as Merchandising Co-ordinator.

When A.V. Roe (Canada) Ltd. became Hawker Siddeley Canada Ltd., in 1961 he was named Product Development Manager and subsequently held posts of General Sales Manager, Railway Equipment; Vice-President Exports; Director of Railway and Industrial Equipment Sales and Director of Marketing. He is a member of the Board of the Canadian Export Association.



John D. Hodge, Vice-President Research and Development
Mr. Hodge is a former NASA official who was flight director for all Mercury, Gemini and early Apollo space missions. He left NASA in 1970 to become Director of Transportation Systems Concepts with the U.S. Department of Transportation.

In 1966, his alma mater—University of London—marked his exceptional achievements while working with NASA by honouring him with a Doctor of Science degree.

While with the U.S. Department of Transportation, Mr. Hodge and his team carried out major studies of new systems for traffic management and control, freight movement, urban transportation and transportation planning. As Director of Plans and Program Development, he was responsible for all goals and objectives, research and development, analysis and evaluation programs, institutional planning, and technology for new transport systems.

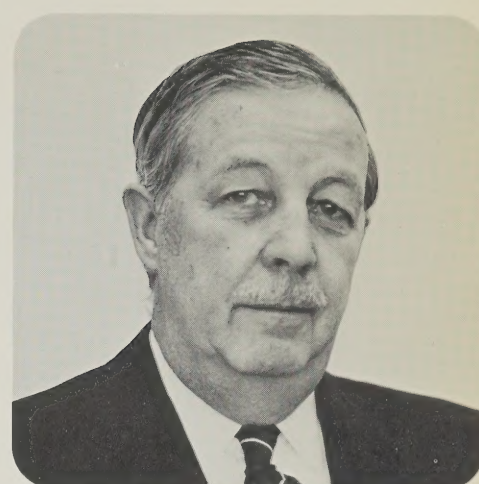
On his appointment to the corporation he said, "Ontario has a world-wide reputation as a leader in modern urban planning and public transit systems. It has been my own good fortune to serve in the forefront of technology in aviation and space exploration. Now, I believe that the leading edge of technology is right here in Ontario—in urban transportation."



Richard M. Soberman, Vice-President Planning
Mr. Soberman will assume full-time duties with the corporation, when he has completed his activities as Director of the Metropolitan Toronto Transportation Plan Review. The Transportation Plan Review is an intergovernmental task force established to review and modify the official transportation plan for Metropolitan Toronto.

A graduate of Dalhousie University, Mr. Soberman studied at the Massachusetts Institute of Technology, where he obtained a Doctorate in Transportation Planning. He has held positions as Director of Research in the Canadian Transport Commission and as Director of the Centre for Urban and Community Studies of the University of Toronto. Mr. Soberman has also worked closely with urban and regional transportation planning programs in Venezuela, Columbia and Israel.

The author of two books on transportation planning, Mr. Soberman is Past President of the Canadian Transportation Research Forum.

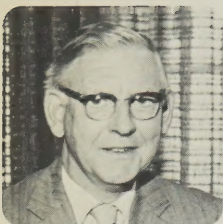


Rupert A. Parkinson, Q.C. Secretary and General Counsel

After service with the Canadian Army, Mr. Parkinson joined Imperial Oil Limited as a Divisional Solicitor and eventually became Assistant to the General Manager of Transportation.

In 1968 he joined the legal staff of the Ontario Securities Commission and was later appointed Legal Director of the Ontario Department of Transport. When the Departments of Transport and Highways were amalgamated, Mr. Parkinson became the first legal director of the Department of Transportation and Communications.

Senior Managers in Profile



Leonard W. Bardsley

Mr. Bardsley is the Product Manager, Light Rail Vehicle Systems.

Mr. Bardsley joined the Toronto Transit Commission in 1946, as an engineer. For the past 13 years, he has been Manager of the TTC Equipment Department, where he was responsible for specification, acquisition and maintenance of all TTC and Gray Coach Lines operating equipment.

A well-known transit system consultant, Mr. Bardsley has acted in an advisory capacity to cities in the United Kingdom and the United States.

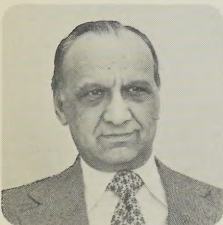


Victor F.J. Craig

Mr. Craig is Manager, Market Development and Analysis.

After working as a highway design engineer for the Commonwealth Department of Works in Australia, Mr. Craig moved to Canada and took a Master's degree in Applied Science from the University of Toronto, specializing in transportation planning.

As a transportation consultant, Mr. Craig has participated in transportation and transit studies for a number of Canadian communities and was responsible for such projects as the operational design of the Dial-A-Ride system in Stratford, Ontario. He also designed and supervised the implementation of the very successful Dial-A-Bus system in Bramalea, Ontario.



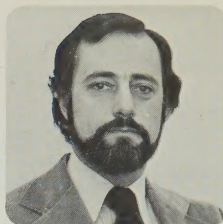
George E. Isaac

Mr. Isaac is the Treasurer of OTDC.

He worked for four years as an accountant at Seiberling Rubber Company of Canada Ltd.

Mr. Isaac became Accountant of the Canadian Steel Improvement Division of Hawker Siddeley Canada Ltd., and was subsequently named Secretary-Treasurer and later acting General Manager. He also has served as Assistant to the Comptroller of Hawker-Siddeley Canada Ltd.

Immediately prior to joining OTDC, Mr. Isaac was Comptroller of Charterways Co. Ltd., which operates a fleet of approximately 1,000 buses and other vehicles as well as helicopters.



Ronald W. Neville

Mr. Neville, Product Manager for GO-Urban Systems holds a Bachelor of Applied Science in Mechanical Engineering degree from the University of Toronto and has the degree of Aeronautical Engineer from the U.S. Naval Postgraduate School in Monterey, California.

While serving with the Royal Canadian Navy he was engineering officer with a navy helicopter squadron and spent four years with the Directorate of Aeronautical Engineering at Canadian Forces Headquarters, Ottawa. Mr. Neville was Deputy Program Manager for the development of Vertical Takeoff (VTOL) and Short Takeoff (STOL) aircraft, where he supervised prototype contract work.

Mr. Neville joined the Ontario Government service in 1971. Among major projects, he directed a study of provincial rail and bus systems and the planning and establishment of *NorOntair*, the government-sponsored commuter airline in Northern Ontario.



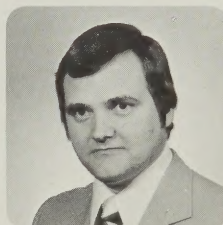
Ronald F. Swanson

Mr. Swanson is Product Manager, Bus Transit Systems, and was instrumental in the design of the OTDC small bus.

Starting his career with the Algoma Central Railroad, Mr. Swanson moved to the Algoma Steel Corporation to supervise limousine operations. In 1957, Mr. Swanson purchased Two Cities Transit Co. Ltd., from Algoma Steel, and developed the bus and limousine services, also establishing a truck fleet.

He subsequently moved to Charterways head office in Mississauga as Fleet Co-ordinator, responsible for specifications of equipment for approximately 1,000 vehicles in 19 branches throughout Ontario.

In 1971, Mr. Swanson joined Ontario's GO-Transit system as Bus Operations Officer. He joined the OTDC in October 1973.



Allen Wright

Mr. Wright is Manager of Market Development of the OTDC.

His transportation background is extensive. He served with the London Transport Executive and also the Toronto Transit Commission. Prior to joining the corporation Mr. Wright was Sales and Service Manager for Hawker-Siddeley Canada Limited and was responsible for marketing and sales activities in Canada and abroad. As such he was closely associated with development of marketing proposals for the transit equipment designed for Boston and the Toronto Transit Commission.

Financial Statements

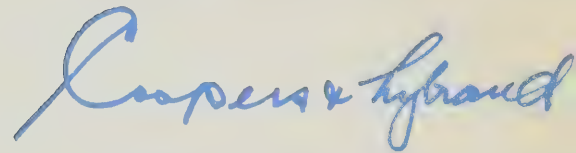
For the period from June 22, 1973, date of
incorporation, to December 31, 1973

The Ontario Transportation Development
Corporation

Auditors' Report to the Shareholders

We have examined the balance sheet of The Ontario Transportation Development Corporation as at December 31, 1973 and the statements of earnings and retained earnings and source and use of working capital for the period then ended. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion these financial statements present fairly the financial position of the company as at December 31, 1973 and the results of its operations and the source and use of its working capital for the period then ended, in accordance with generally accepted accounting principles.



COOPERS & LYBRAND
Chartered Accountants
May 30, 1974

Balance Sheet

as at December 31, 1973

The Ontario Transportation Development Corporation

Assets

Current Assets

Cash	\$5,779,999
Accrued interest receivable	102,000
Prepaid expenses	1,250
	<hr/> 5,883,249

Fixed Assets—at cost (note 1)

Moulds	<hr/> 33,000
--------	--------------

Development, Design and License Costs (notes 1 and 2)


License	5,357,432
Mould design costs	42,000
Prototype vehicle cost	22,449
	<hr/> 5,421,881

Incorporation Expenses

3,666

\$11,341,796

Signed on behalf of the Board


Director


Director

Statement of Earnings and Retained Earnings

For the period from June 22, 1973 to December 31, 1973

The Ontario Transportation Development Corporation

Income

Bank interest	<hr/> \$133,349
---------------	-----------------

General and Administrative Expenses

Salaries and employee benefits	27,372
Recruitment services	4,184
Directors' fees and expenses	1,063
Office expenses and miscellaneous	1,205
Travel	419
Audit	500
	<hr/> 34,743

Net Earnings and Retained Earnings for the period

\$ 98,606

Liabilities and Shareholders' Equity

Current Liabilities

Accounts payable and accrued liabilities	\$112,176
Expense advances from Province of Ontario (shareholder)	31,014
	<u>143,190</u>

Capital Stock (note 3)

Authorized—	
50,000 non-voting special shares with a par value of \$100 each	
20,000,000 common shares of no par value	
Issued and fully paid—	
3,700,000 common shares	11,100,000

Retained Earnings

	98,606
	<u>11,198,606</u>
	<u>\$11,341,796</u>

Statement of Source
and Use of Working Capital

For the period from June 22, 1973 to December 31, 1973
The Ontario Transportation Development Corporation

Source of Working Capital

Net earnings for the period	\$ 98,606
Issue of common shares	11,100,000
	<u>11,198,606</u>

Use of Working Capital

Additions to fixed assets	33,000
Acquisition of license	5,357,432
Mould design costs	42,000
Prototype vehicle cost	22,449
Incorporation expenses	3,666
	<u>5,458,547</u>

Increase in Working Capital

	5,740,059
--	-----------

Working Capital—Beginning of Period

	—
--	---

Working Capital—End of Period

	\$ 5,740,059
--	--------------

Notes to Financial Statements

For the period from June 22, 1973 to
December 31, 1973
The Ontario Transportation Development
Corporation

1. Depreciation and Amortization

(a) Fixed assets
No depreciation has been taken on these assets because they were not acquired until December 1973 and there had been no significant use during the period. Commencing in 1974, it is the intention of the corporation to depreciate these assets over a minimum term of three years, the term of a related royalty agreement, or their useful life.

(b) License
It is the intention of the corporation to amortize license costs over the period between the commencement of revenue therefrom and the expiry of the agreement on April 30, 1985.

(c) Mould design and prototype vehicle costs
It is the intention of the corporation to amortize these costs over their estimated period of benefit commencing with significant commercial usage thereof.

2. Licence

The rights under this licence were acquired as follows:

a) In exchange for the issue of 1,700,000 common shares of the corporation at \$3.00 per share (note 3)	\$5,100,000
b) cash payment on the licence date	250,000
c) Legal costs incurred in acquiring the licence	7,432
	<u>\$5,357,432</u>

3. Capital Stock

The corporation was incorporated by Special Act of the Legislative Assembly of the Province of Ontario on June 22, 1973. During the period, the company issued 2,000,000 shares for cash of \$6,000,000. 1,700,000 shares were also issued at an ascribed value of \$5,100,000 as determined by the board of directors (note 2).

4. Licence Commitments

For the issuance of shares to the Province of Ontario (note 3) the corporation acquired certain licence rights. Under the terms by which the licence rights were obtained:

(a) The corporation is obligated to grant a non-exclusive sub-licence to the licensor's Canadian subsidiary. Upon granting this sub-licence, the corporation is entitled to \$250,000 per year for two years from the sub-licensee. On the date of receipt of the first \$250,000, the corporation is obligated to pay \$250,000 to the licensor.

(b) The corporation is further obligated to pay \$500,000 on the first anniversary of the license date, May 1, 1974.

It is the intention of the corporation to capitalize these costs and amortize them as outlined in note 1.

5. Lease Commitments

The corporation has signed an agreement to lease premises with an annual commitment of \$116,000 expiring in five years.

6. Remuneration of Directors and Senior Officers

The aggregate direct remuneration paid to the directors and senior officers, as defined by the Business Corporations Act, amounted to \$12,625.

Small Bus, Big Success

Light Rail Vehicles

GO-Urban

The goal of The Ontario Transportation Development Corporation is to improve the quality of urban life through innovations in transit. Established by an Act of the Ontario Government, the company operates as a private corporation with a management team and a board of directors representing a broad cross-section of private and public interests. Both the federal government and other provincial governments have been invited to participate in the corporation.

Technical and management staff within the corporation are directly engaged in immediate and long range development of transit concepts, products and systems. In addition, the OTDC retains the assistance of consultants from Canadian universities and industry.

The corporation will carry out and supervise, under contract, evaluation, development, construction, testing and marketing of urban transportation products and systems. It will identify and qualify Canadian suppliers capable of producing new equipment under licence from the corporation. The corporation also negotiates the acquisition of licence rights for off-shore technology which may be required for transit system developments.

The following sections outline the programs currently underway, their progress and the equipment being marketed.

Small Bus, Big Success

The OTDC small bus is rapidly gaining favour with both transit riders and operators throughout Ontario. Its reputation as a pleasing, dependable and comfortable vehicle is growing.

Initially designed for dial-a-bus service, the small bus also performs well as a fixed-route vehicle in smaller communities. There are a number of other applications which have not yet been exploited commercially.

When experimental dial-a-bus systems were first launched in Ontario, it became apparent that specifically-designed vehicles would be required. Full size buses were difficult to manoeuvre and visually objectionable in residential areas, and created noise pollution.



Small buses which were converted from vans encountered technical problems created by constant stop-and-go operation. In addition, their seating and suspension produced an uncomfortable ride. Heating and ventilating provisions were inadequate.

It was clear that dial-a-bus systems designed for large urban areas would require vehicles that could compete with the automobile in terms of passenger convenience. After all, the idea behind big city dial-a-bus service was to encourage commuters to leave their cars at home.

Recognizing the need for a fresh approach to these problems, the OTDC small bus was created.

Based on the Dodge Motorhome chassis, the bus is powered by a Chrysler 440 engine. It features automatic transmission, power steering and powered front disc brakes which operate on a dual circuit system.

The bus is 24-feet long and eight feet wide. The body is cleanly and simply designed. It consists of a fiberglass sandwich-type construction incorporating rigid foam insulation. The Toronto firm of Rekvee Industries Ltd. fabricates and attaches the body to the chassis for OTDC.



From Rekvee, the unfinished bus is shipped to Funcraft Vehicles Limited of Cambridge, Ontario, where the interior fixtures are installed.

In the first small bus configuration, moulded fibreglass seats with snap-on upholstery are placed around the inner perimeter of the vehicle for additional comfort and safety. Seats at each side of the bus are angled inwards, toward the front. The vehicle will accommodate 17 seated and 10 standing passengers.

Large windows, curtain trim, wood-grain paneling and broadloom carpeting complete the interior package to create a living-room atmosphere. Heat is supplied by three 40,000 B.T.U. heaters: Air-conditioning options can also be installed.



Other interior configurations are available on request. For example, the bus can be supplied as a transit bus (24 seated, 10 standing) or as a charter coach with 16 deluxe seats.

The bus is economical to operate and less expensive to purchase than a conventional bus. Its fibreglass body construction facilitates fast repair, and being corrosion-free, can be transferred to a new chassis when required, thus effectively doubling body life.

By the end of 1973, OTDC had delivered 19 of its small buses to Toronto and Ottawa. Orders for vehicles to be delivered in 1974 are now being negotiated with a number of Ontario communities and with the City of Rochester, N.Y. and the Department of Highways in Michigan.

Also, in 1974, OTDC will test the bus with a heavy duty long-life chassis and a diesel power package with a 4-speed automatic transmission.



Buses for the handicapped

Plans are now underway for an OTDC-designed bus which can be easily boarded by wheelchair passengers.

After consultation with various medical advisors, associations for the handicapped, and handicapped persons themselves, OTDC has identified the need for buses which can serve as regular transit vehicles yet also accommodate handicapped persons.

A prototype of this multi-purpose bus will be built and demonstrated in 1974. It will be equipped with a special lift device at the entrance door. The lift will double as a step for regular transit use.

The interior of the prototype vehicle will be equipped with special accommodation for wheelchair passengers and with both regular and special seating for passengers with other types of walking disabilities.

Light Rail Vehicles

A light rail vehicle (LRV) is an updated version of the familiar streetcar. Canadians are accustomed to LRV's which operate on tracks in the street, hence the name "streetcar".

Modern LRV's are not, however, confined to street operation. They are versatile enough to run in subway tunnels, on elevated tracks or at grade level on their own rights-of-way. They can also operate as single or multiple units.

When a light rail transit system is built so that vehicles run in trains on a separate right-of-way, that system is optimized in terms of passenger capacity. Under these conditions, LRV capacity significantly exceeds the passenger-carrying capability of on-street systems.

Light rail transit systems are expected to carry 5,000 to 20,000 passengers per hour per direction of single track—depending on the deployment of track and vehicles.

In the early thirties, the President's Conference Committee developed the design for streetcars now in use in Toronto. No streetcars have been designed nor is there a streetcar design currently in production which can fully meet Canadian climatic and traffic conditions.

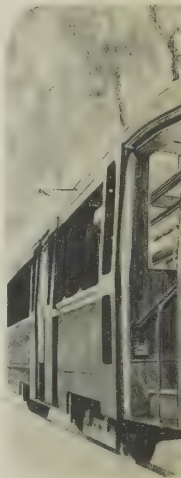


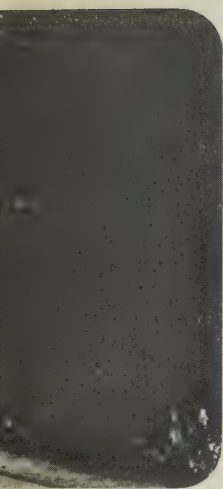
Current U.S. and European LRV designs contain technical innovations of interest, although neither can completely meet Canadian operators' needs. In order to produce light rail vehicles specifically suited to Canadian cities, it is neither necessary nor economical to re-invent every element and sub-component involved in modern streetcar technology. The corporation has reviewed the most recently developed technology and is negotiating licenses for incorporating these items into a Canadian designed and produced LRV system.

The OTDC LRV will incorporate the most modern technology available for Canadian operating requirements. Besides operating efficiently in a wide range of temperatures and climatic conditions, the first OTDC-developed LRV's for application in Toronto, will improve passenger comfort. They will feature a smoother, quieter ride than existing equipment and will be compatible with modern street traffic.

The new LRV's will be dimensionally similar to existing Toronto vehicles. They will feature picture windows high enough to allow standing passengers a clear view of the street, improved heating and ventilation and wide-visibility windshields for the operator.

The vehicles will also use a triple braking system with improved safety features.



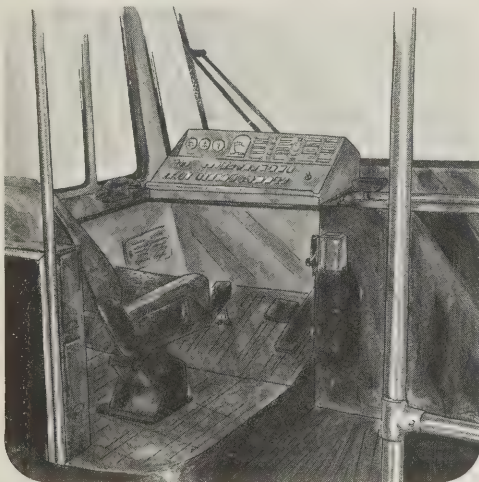


A motor control system will ensure smooth, efficient performance with acceleration consistent with passenger comfort. Maximum speed will be in the range of 55 mph, which can be utilized in the pure LRV mode operation on segregated rights-of-way. The vehicles may employ a 'monomotor' truck drive system—one motor powering two axles. This system improves adhesion during acceleration and braking, and it simplifies maintenance operations.

The Toronto Transit Commission has indicated an intent to order two hundred of these surface-type LRV's. The first twenty would be delivered in 1977, eighty in 1978 and one hundred in 1979.

New Canadian Industry

Once licences have been procured for rights to technology incorporated into the OTDC design, the OTDC will call for public tenders for sub-component supply and vehicle assembly. The corporation will act as prime contractor for all manufacturing processes involved in the TTC contract.



Markets

Although initially designed to satisfy Canadian operator requirements, the OTDC light rail vehicle will be available with various options that will allow it to operate in other climatic and traffic conditions.

As more cities consider the use of abandoned rail rights-of-way and possibly the restriction of automobiles from roadways in city cores and from other high-traffic areas, light rail transit systems will become more feasible. As demand for such systems grows, The Ontario Transportation Development Corporation will maintain sufficient continuing research and development activity to maintain its lead in providing surface rail vehicles for growing cities.





In today's large cities, transit experts have identified three distinct capacity requirements for transit systems—low, intermediate and high capacity.

Low range capacity is met by bus systems which are capable of moving up to 6,000 passengers per hour per direction (pphd) under current traffic conditions. At the upper range, where demand is heaviest, subways can be used to move up to 50,000 pphd.

What of the intermediate capacity needs?

In 1969, the Government of Ontario initiated a world-wide study of developments in intermediate capacity transit systems. It was seeking an alternative to LRT technology.



The Ontario Government was looking for a transit system which would best meet the following criteria:

High standards of service with a minimum visual, ecological and noise impact on neighbourhood environments;

High frequency of service and minimization of overall travel time between points of origin and destination of passengers;

High levels of passenger comfort and safety;

High reliability of service;

Acceptable capital and operating costs;

Ability to integrate with existing transit systems;

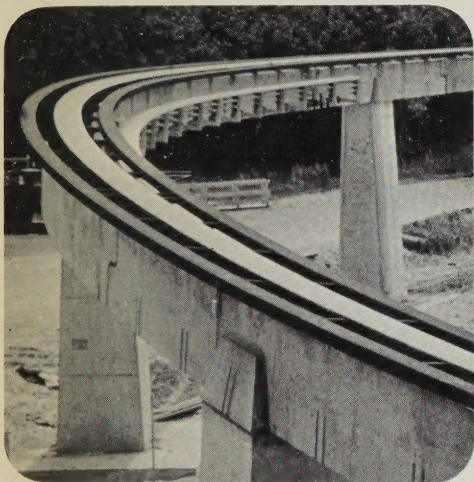
Flexibility to provide public transit in corridors of future urban development, thus assisting in shaping desirable urban development.

By 1972, the government had focussed its attention on eight systems for further study. After a lengthy selection process, the system developed by Krauss-Maffei AG of Munich, West Germany, was chosen as the most promising for further development.

Responsibility for that development now rests with OTDC, although the Ontario Ministry of Transportation and Communications retains operational responsibility for an initial test project being installed at the Canadian National Exhibition.

The Krauss-Maffei system consists of magnetically-levitated vehicles powered by linear induction motors. The demonstration prototype vehicles, which accommodate 12 seated and eight standing passengers, can operate singly or in trains. They travel along a guideway which can be elevated above street level, installed at ground level where feasible or placed underground in a tunnel.

Called GO-Urban in Ontario, the system will offer passengers a smooth, and relatively quiet ride since vehicles do not come into weight-bearing contact with the guideway rails.



GO-Urban systems will be computer controlled, utilize built-in safety features, operate on short headways during peak capacity times, and will be capable of carrying a maximum of 20,000 pphpd.

A Test and Development System (TDS) is being constructed around the perimeter of the Canadian National Exhibition Grounds in Toronto. It will incorporate guideway, passenger stations, switching sections, maintenance facilities and computer command and control equipment.

The CNE site was chosen because it can offer some of the worst and most varied climatic conditions—freezing rain, snow, wind and extremes of dampness and temperature. During the annual three-week exhibition, the passenger-carrying capabilities of the system can be demonstrated.

Construction of the GO-Urban TDS began in late 1973 with the installation of the first caisson-type foundations on which guideway columns will rest. When the guideway is complete, Krauss-Maffei AG will supply a number of test vehicles for the system.

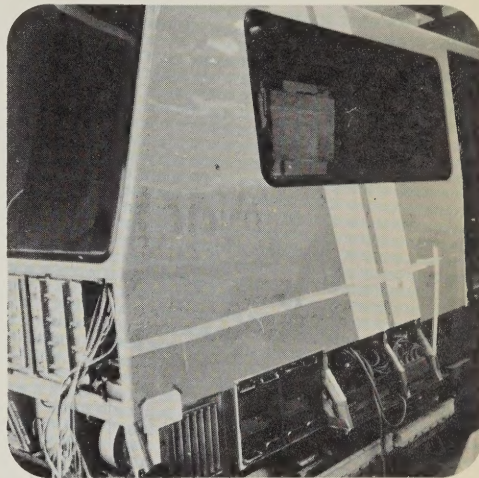
The TDS will be used for years to come as a facility for testing and refining succeeding generations of GO-Urban vehicles.

Linear induction motors for GO-Urban vehicles are already under development by SPAR Aerospace Products Ltd., of Toronto. Research and development costs for Canadian designed LIM's are being shared by SPAR and the Federal Government of Canada.

SPAR is the first of many Canadian companies to participate in the production of component parts for GO-Urban systems. Revenue systems for Canadian cities should be entirely Canadian-built.



In its agreement with Krauss-Maffei AG, The Ontario Transportation Development Corporation holds exclusive rights to all GO-Urban technology in Canada. It also holds rights for South and Central America. In addition the corporation receives a 10 per cent royalty from all income for systems sold by Krauss-Maffei in the United States. OTDC will control the manufacture of components and sub-components for GO-Urban systems in Canada through licencing agreements with Canadian industry.



Summary

The preceding has outlined the structure, functions, activities and progress of The Ontario Transportation Development Corporation. The corporation fully intends to continue to provide regular and frequent progress reports to shareholders and to the general public.



